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(57) Abstract: Supported catalysts which allow shortening of the production steps for supported catalysts useful for production of lower aliphatic carboxylic acids from lower olefins and oxygen, and which compared to supported catalysts of the prior art, can inhibit generation of carbon dioxide ( $CO_2$ ) gas by-product during the production of lower aliphatic carboxylic acids. A compound containing at least one element selected from Group 8, 9 and 10 elements of the Periodic Table is loaded on a carrier and then, before reduction treatment of the compound, it is subjected to alkali treatment with an alkaline substance, and a compound containing at least one element selected from gallium, indium, thallium, germanium, tin, lead, phosphorus, arsenic, antimony, bismuth, sulfur, selenium, tellurium and polonium is loaded.

